UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/441,124	11/17/1999	HIDEAKI ONO	FUSA16.745	3879

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KATTEN MUCHIN ZAVIS ROSENMAN
575 MADISON AVENUE
NEW YORK, NY   10022-2585

EXAMINER
HOM, SHICK C

ART UNIT	PAPER NUMBER
2666	

DATE MAILED: 06/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>06 April 2004 and 25 May 2004</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-28</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) <u>22-24</u> is/are allowed.

6)☒ Claim(s) <u>1-3,9-16,18,20,21 and 25-28</u> is/are rejected.

7)☒ Claim(s) <u>4-8,17 and 19</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments filed 4/6/04 have been fully

considered but they are not persuasive.

2.   Applicant's arguments with respect to claims 1-28 have been

considered but are moot in view of the new ground(s) of

rejection.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs

of 35 U.S.C. 102 that form the basis for the rejections under

this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published
> under section 122(b), by another filed in the United States before the
> invention by the applicant for patent or (2) a patent granted on an
> application for patent by another filed in the United States before the
> invention by the applicant for patent, except that an international
> application filed under the treaty defined in section 351(a) shall have the
> effects for purposes of this subsection of an application filed in the
> United States only if the international application designated the United
> States and was published under Article 21(2) of such treaty in the English
> language.

4.   Claims 1-3, 9-16, 18, and 20-21 rejected under 35

U.S.C. 102(e) as being anticipated by Galand et al. (6,317,433).

Regarding claim 1:

Galand et al. disclose the apparatus for executing

processing for switching a short-packet (see col. 2 lines 27-53

which recite converting short packets into ATM cells for ATM

network) comprising: means for judging whether the length of the

short packet is larger than length L bytes, where L bytes can be

accommodated in one ATM cell (see col. 3 line 59 to col. 4 line

2 and col. 11 lines 35-49 which recite that since the ATM cell

is 48 bytes and determining that the short packet being 124

bytes fits into 3 ATM cells clearly reads on means for judging

whether the packet can be accommodated in one ATM cell); means

for splitting the short packet, which has a length greater than

the length L bytes, into short-packet portions so as to be

accommodated respectively in first and second ATM cells (see

col. 4 line 42 to col. 5 line 2 which recite splitting variable

length payload into 48 bytes long ATM cells); and cell creation

means for accommodating significant data containing one of the

short-packet portions and short-packet length information in a

payload area of the first ATM cell, accommodating remaining

significant data including another short-packet portion, the

remaining significant data could not be accommodated in the

first ATM cell, in a payload area of the second ATM cell (see

col. 2 line 65 to col. 3 line 16, col. 4 line 65 to col. 5 line

2, and col. 5 lines 31-40 which recite the stored payload length

indicator, the remaining significant data, i.e. payload data, in

the second, i.e. last ATM cell, with padding bits), and

inputting the first and second ATM cells to an ATM switch (see

col. 6 line 66 to col. 7 line 20 which recite the ATM switch for

the ATM cells).

Regarding claim 15:

Galand et al. disclose the apparatus for executing

processing for switching a short-packet (see col. 2 lines 27-53

which recite converting short packets into ATM cells for ATM

network), comprising: means for splitting the short packet,

which has a length greater than a length L bytes, where L bytes

can be in one ATM cell, into short-packet portions so as to be

accommodated respectively in first and second ATM cells (see

col. 4 line 42 to col. 5 line 2 which recite splitting variable

length payload into 48 bytes long ATM cells); cell creation

means for accommodating the short-packet portions in the first

and second ATM cells, accommodating short-cell headers, onto

which have been added length information identifying the length

of the accommodated short-packet portion, in the first and

second ATM cells (see col. 2 line 65 to col. 3 line 16, col. 4

line 65 to col. 5 line 2, and col. 5 lines 31-40 which recite

the stored payload length indicator, the remaining significant

data, i.e. payload data, in the second, i.e. last ATM cell, with

padding bits), and inputting the first and second ATM cells to an ATM switch (see col. 6 line 66 to col. 7 line 20 which recite the ATM switch for the ATM cells); and restoration means for discriminating the length of the short-packet portion accommodated in each ATM cell upon referring to the length information contained in the short-cell headers of first and second ATM cells output from the ATM switch, extracting the short-packet portion from each ATM cell based upon the length information, restoring the original short packet having a length greater than L bytes, and sending the original short packet to a line (see col. 10 lines 34-51 which recite reconstructing the original payload from the ATM cells clearly reads on restoring the original short packet).

Regarding claim 18:

Galand et al. disclose the apparatus for executing processing for switching a short-packet (see col. 2 lines 27-53 which recite converting short packets into ATM cells for ATM network), comprising: means for splitting the short packet, which has a length greater than a length L bytes where L bytes are capable of being accommodated in one ATM cell, into short-packet portions so as to be accommodated respectively in first and second ATM cells (see col. 4 line 42 to col. 5 line 2 which recite splitting variable length payload into 48 bytes

long ATM cells); cell creation means for accommodating the
short-packet portions in payloads of the first and second ATM
cells, accommodating short-cell headers, onto which have been
added information identifying lengths of respective ones of the
short-packet portions, in the payloads of the first and second
ATM cells, adding on code information, which is for identifying
the first and second ATM cells, to a predetermined position of
each ATM cell (see col. 2 line 65 to col. 3 line 16, col. 4 line
65 to col. 5 line 2, and col. 5 lines 31-40 which recite the
stored payload length indicator, the remaining significant data,
i.e. payload data, in the second, i.e. last ATM cell, with
padding bits), and inputting the first and second ATM cells to
an ATM switch (see col. 6 line 66 to col. 7 line 20 which recite
the ATM switch for the ATM cells); and restoration means for
discriminating the length of the short-packet portion
accommodated in each ATM cell upon referring to the length
information contained in first and second ATM cells output from
the ATM switch, identifying the first and second ATM cells upon
referring to the code information, extracting the short-packet
portion from each ATM cell based upon the length information and
code information, restoring the original short packet having a
length greater than L bytes, and sending the original short
packet to a line (see col. 10 lines 34-51 which recite

reconstructing the original payload from the ATM cells clearly

reads on restoring the original short packet).

Regarding claim 20:

Galand et al. disclose the ATM exchange for handling AAL

Type 2 cells, comprising: a preprocessor for receiving a short

packet (see col. 2 lines 27-53 which recite converting short

packets into ATM cells for ATM network), the short packet having

a length greater than a length of L bytes, where L bytes can be

accommodated in one ATM cell, splitting the short packet and

converting it to two standard ATM cells (see col. 4 line 42 to

col. 5 line 2 which recite splitting variable length payload

into 48 bytes long ATM cells and col. 2 line 65 to col. 3 line

16, col. 4 line 65 to col. 5 line 2, and col. 5 lines 31-40

which recite the stored payload length indicator, the remaining

significant data, i.e. payload data, in the second, i.e. last

ATM cell, with padding bits); an ATM switch for switching the

standard ATM cells (see col. 6 line 66 to col. 7 line 20 which

recite the ATM switch for the ATM cells), which enter from said

preprocessor, to a prescribed outbound path upon referring to

headers of the ATM cells; and a restoration unit, which is

provided on the outbound-path side of said ATM switch, for

receiving the two standard ATM cells created based upon the

split short packet, assembling the original short packet, the

length of which is greater than L bytes, using these standard

ATM cells, and outputting the short packet to a line (see col.

10 lines 34-51 which recite reconstructing the original payload

from the ATM cells clearly reads on assembling the original

short packet).

Regarding claim 21:

Galand et al. disclose the ATM exchange method for

switching a short-packet (see col. 2 lines 27-53 which recite

converting short packets into ATM cells for ATM network),

comprising the steps of receiving the short packet, the short

packet having a length greater than a length of L bytes, where L

bytes can be accommodated in one ATM cell (see col. 3 line 59 to

col. 4 line 2 and col. 11 lines 35-49 which recite that since

the ATM cell is 48 bytes and determining that the short packet

being 124 bytes fits into 3 ATM cells clearly reads on receiving

short packet which can be accommodated in one ATM cell);

creating two standard ATM cells by splitting the short packet

(see col. 4 line 42 to col. 5 line 2 which recite splitting

variable length payload into 48 bytes long ATM cells), and then

inputting the two standard ATM cells to an ATM switch (see col.

6 line 66 to col. 7 line 20 which recite the ATM switch for the

ATM cells); switching the standard ATM cells in the ATM switch

to a prescribed outbound path upon referring to headers of the

ATM cells; receiving two standard ATM cells, which have been

created by splitting the short packet, from the ATM switch; and

assembling the original short packet, the length of which is

greater than L bytes, using these standard ATM cells, and

outputting the short packet to a line (see col. 10 lines 34-51

which recite reconstructing the original payload from the ATM

cells clearly reads on assembling the original short packet).

Regarding claim 2:

Galand et al. disclose the restoration means for extracting

short-packet portions accommodated in respective ones of first

and second ATM cells upon referring to said short-packet length

information that has been accommodated in the first ATM cell

output from the ATM switch, restoring the original short packet

having a the length greater than L bytes, and sending the

original short packet to a line (see col. 10 lines 34-51 which

recite reconstructing the original payload from the ATM cells

clearly reads on restoring the original short packet).

Regarding claim 3:

Galand et al. disclose wherein said cell creation means

accommodates the significant data in the payload of the first

ATM cell in such a manner that the amount of the significant

data accommodated in the payload of the first ATM cell becomes a

predetermined amount, and accommodates the remaining significant

data in the payload of the second ATM cell (see col. 4 lines 42-
64 and col. 4 line 65 to col. 5 line 2).

Regarding claim 9:

Galand et al. disclose means for generating code
information for identifying the first and second ATM cells; said
cell creation means adding on the code information in a specific
area of each of the first and second ATM cells, and said
restoration means detecting absence or presence of cell discard
upon referring to the code information of a received ATM cell
(see col. 7 lines 21-26 which recite discarding packet based on
integrity of the received packet header clearly reads on the
code information for in the cells).

Regarding claim 10:

Galand et al. disclose wherein said restoration means
preserves the significant data that has been accommodated in the
payload of one of the first and second ATM cells received from
the ATM switch and, if cell discard is detected, discards the
preserved significant data (see col. 10 lines 34-51 which recite
reconstructing the original payload from the ATM cells and col.
7 lines 21-26 which recite discarding packet based on integrity
of the received packet header).

Regarding claim 11:

Galand et al. disclose wherein the specific area is an area

within the payload of the first and second ATM cells and

contains no significant data of the short packet (see col. 7

lines 21-26 which recite discarding packet based on integrity of

the received packet header clearly reads on the code information

for in the cells in the specific area containing no significant

data, i.e. payload data).

Regarding claim 12:

Galand et al. disclose wherein the specific area is an

unused area within an ATM cell header (see col. 7 lines 21-26

which recite the header area).

Regarding claim 13:

Galand et al. disclose wherein said cell creation means

adds on a short-packet header in the payload area of each of the

first and second ATM cells and employs an unused area within the

short-packet header of each cell as the specific area (see col.

7 lines 21-26 which recite the header area).

Regarding claim 14:

Galand et al. disclose means for generating an error

detection code for detecting an error in significant data; said

cell creation means adding on the error detection code in a

specific area of the second ATM cell, and said restoration means

calculating an error detection code using significant data in

the payload area of a received ATM cell, comparing this

calculated error code with a received error correction code and

detecting absence or presence of cell discard and bit error in

data (see col. 3 line 59 to col. 4 line 2, col. 7 lines 21-26,

and col. 10 lines 34-51).

Regarding claim 16:

Galand et al. disclose wherein said cell creation means

accommodates L-byte short-packet portion in the first cell and

remaining short-packet portion in the second cell, makes length

information LI of the first ATM cell a specific value, e.g., 0,

and makes length information LI of the second ATM cell a value

indicating the length of the short packet (see col. 2 line 65 to

col. 3 line 16, col. 4 line 65 to col. 5 line 2, and col. 5

lines 31-40).

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which

forms the basis for all obviousness rejections set forth in this

Office action:

> (a) A patent may not be obtained though the invention is not identically
> disclosed or described as set forth in section 102 of this title, if the
> differences between the subject matter sought to be patented and the prior
> art are such that the subject matter as a whole would have been obvious at
> the time the invention was made to a person having ordinary skill in the
> art to which said subject matter pertains. Patentability shall not be
> negatived by the manner in which the invention was made.

6.   This application currently names joint inventors.   In

considering patentability of the claims under 35 U.S.C. 103(a),

the examiner presumes that the subject matter of the various

claims was commonly owned at the time any inventions covered

therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to

point out the inventor and invention dates of each claim that

was not commonly owned at the time a later invention was made in

order for the examiner to consider the applicability of 35

U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior

art under 35 U.S.C. 103(a).

7.   Claims 25-28 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Galand et al. (6,317,433) in view of Baldwin

et al. (5,953,339).

Regarding claims 25-28:

    For claims 25-28, Galand et al. disclose the apparatus and

method described in paragraph 4 of this office action.   Galand

et al. disclose all the subject matter of the claimed invention

with the exception of wherein said short-packet is a short-

packet in AAL Type 2 cell format.

    Baldwin et al. from the same or similar fields of endeavor

teach that it is known to provide wherein said short-packet is a

short-packet in AAL Type 2 cell format (see col. 1 lines 51-57).

Thus, it would have been obvious to the person having ordinary skill in the art at the time the invention was made to provide said short-packet being a short-packet in AAL Type 2 cell format as taught by Baldwin et al. in the apparatus and method of Galand et al. The short-packet being a short-packet in AAL Type 2 cell format can be implemented by substituting the AAL5 standard packets of Galand et al. with the AAL2 packet format of Baldwin et al. The motivation for substituting the AAL5 format for the AAL2 format packets as taught by Baldwin et al. in the apparatus and method of Galand et al. being that AAL2 provides the desirable standard feature of an ATM adaptation Layer which supports class B traffic, i.e. voice and video.

Allowable Subject Matter

8.   Claims 4-8, 17, and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9.   Claims 22-24 are allowed.

Conclusion

10. The prior art made of record and not relied upon is

considered pertinent to applicant's disclosure.

Caves discloses multiplexing traffic into structure blocks in

ATM cells.

11. Any response to this nonfinal action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9306, (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal

Park II, 2121 Crystal Drive, Arlington. VA., Sixth

Floor (2600 Receptionist at (703) 305-4750).

Any inquiry concerning this communication or earlier

communications from the examiner should be directed to Shick Hom

whose telephone number is (703) 305-4742. The examiner's

regular work schedule is Monday to Friday from 8:00 am to 5:30

pm EST and out of office on alternate Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao, can be reached at (703) 308-5463.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

DANG TON
PRIMARY EXAMINER

SH

June 13, 2004